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ABSTRACT

A conceptual framework and practical approach are presented focusing on the possibility of making an evaluation of tertiary educational institutions by means of different levels, categories, and criteria of analysis. The paper is a preliminary reference design of evaluation whose theoretical approach is summarized with a more extensive methodological discussion. The levels of analysis include academic units in an institution, unit compatibility within the whole, and study of the whole versus plans and programs. To evaluate units, the examined methodology is meant to allow: (1) identification of units and subunits to be evaluated, choice of evaluators, and preparation of evaluation instruments; (2) information collection on components of the whole; (3) descriptions and weighting of variable behavior; (4) participation of appropriate institution members; (5) participation of outside specialists adequate to guarantee objectivity and technical solvency; (6) application of statistical methods to integrate the data into the qualitative analysis presupposed by the methodology; (7) familiarization with evaluation as a part of the act of education; and (8) reduction of evaluation costs by increasing the practicality of the proposed system. Specific operations are suggested. (CM)

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# EVALUATION OF TERTIARY LEVEL INSTITUTIONS

# A REFERENCE SYSTEM AND BASIC INSTRUMENTS

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# EVALUATION OF TERTIARY LEVEL INSTITUTIONS
# A REFERENCE SYSTEM AND BASIC INSTRUMENTS

by Alicia L. de Bertoni
and Josefina S. de Magurno

## 1.- INTRODUCTION

The term "evaluation" involves many tpyes of judgements. The different uses of this term have in common the notions of judging the value of the merits of a certain entity by means of explicit or implicit criterio.

This article focuses on the possibility of making an evaluation of tertiary educational institutions by means of different levels, categories and criteria of analysis.

A study of this type will encounter a great deal of difficulties ranging from the reactions of educational institutions themselves, as they face an unusual pedagogical proposal, to the tecnical, financial and administrative problems associated with it.

A framework and a practical approach are provided in this paper.

These may be a basis for the analysis of the problem of institutional evaluation, from a predominantly pedagogical point of view.

This paper intends to contribute ideas and to establish a framework for an evaluative research, more than to evaluate a particular situation, program or institution. This means that it does not describe a system duly validated by empirical differences, but a preliminary design of evaluation, whose theorical approach is briefly summarized, and whose methodological framework is more extensively discussed.

## 2.- OBJECTIVES

2.1. -To promote an interest in the present approaches of institutional and curricular evaluation, aiming at the elaboration of evaluative models, fitted to our needs, requirements and conception of goals and purposes of tertiary education.

2.2.- To introduce a reference system for evaluative research, which may provide the educational institutions of tertiary level with the means to orient or to re-structure their academic planning, aiming at the optimizing of their objectives.

## 3.- BRIEF DESCRIPTION OF THE PROBLEM

The University provides society with graduates in different disciplines in the practice of a new profession, the graduate defines and extends his field, because his education has not foreseen the correspondence between his professional incumbency and the social and technical requirements he may encounter.

In the most traditional professions, the cumulative professional experiences correspond to activities which are even well known to the public, which distinguishes how each of them functions. The problem of the institutions from which the latter professional graduates, lies perhaps, more in the necessity of modifying the curricula according to the advancement of science, technology an pedagogical innovations, then in a definition of the fields of work. Naturally, the fact of curricula being outdated, is associated with the problem of professional incumbencies, but it is always less important than in the first case, when the student graduates and asks himself what he can still do and where he can do it.

It is difficult for the professional who has not determined his own field precisely, to possess the knowledge and techniques necessary for the practice of a profession. The "quality" of his work, at least at the beginning, will be seriously impaired and his mistakes will be sanctioned. But this is a sanction applied to the person, not to the institution which formed him professionally.

This reflection has been made by various authors interested in the subject. Attention has been called to the fact that the professional "by himself" has few or no possibilities of transferring the sanction and modifying the educational policy of the institution which has granted him his degree. Nevertheless, the possession of this degree, in practice, can give rise to different kinds of professional behaviour, depending on the academic institution involved.

There is a lack of knowledge of the factors that have an incidence on this phenomenon, factors which not only refer to the teacher-student relationship and which affect many different aspects of the pedagogical activity, on which the formation of professionals fundamentally rests. The persons involved in the teaching-learning themselves do not even know to what extent the institutional programme aspects and the exogenous variables have an incidence on such a process, impeding or simulating it.

The University has a number of strict functions, well defined, but it exercises others bound to assumed definitions and, as a consequence, illdetermined . At times, it is not possible to know exactly what is being done or what will be done in the future.

The existence of a system of evaluation, not limited to the number and excellence of tests, to the number and dedication of the teachers, or the listing of permises, degrees and awards, must give an answer, documentary as well as technical,

in order to allow an institution to analyze, as objectively as possible, the discrepancies between the goals proposed, the academic activities which it has planned, the means used in its implementation and what it has really achieved in different periods of time.

4.- SCOPE AND GENERAL OUTLINE OF THIS PAPER

This paper tries to examine, in the ligth of determined criteria the process and the results of the pedagogical activity developed with in a tertiary educational institution, taking into account, firstly, its technical-pedagogical and organizational aspects, as well as the administrative and financial aspects which complement it.

Institutions are considered as units which render educational services. Their study can be approached on the basis of three levels of analysis.

- The first is that of academic units.
- The second, the compatibility of these units with the whole.
- The third, the study of the whole versus plane or programs apt to implement social, cultural and/or economic aspects of the country,or parts of the country.

At the first level, the units can be studied separately, after being identified and the essential elements for their evaluation determined, together with the results being expected of each of them according to the use of pre-determined critera, their location from a functional and physical point of view, the development and use of resources their financing and management.



The second is the institutional level,which serves to reveal the institutional conditions prevailing in the first period,

during the development of the educational activity being evaluated, and in the situation corresponding to the formal time of evaluation. The incidence of organizational variables is an important factor for the elaboration of a model of evaluation.

The third level of analysis can be used as a framework, which may provide bases for judgement to be compared with the goals actually attained. This could be called the program level and its study includes the effects, planned and unplanned in its creation.

This article limits itself to the evaluation of the first level.

It proposes the analysis of curriculum as the most adecquate procedure for the evaluation of academic units.

## 5.- THE THEORETICAL FRAMEWORK

The theoretical framework utilized here, is composed of the description of the present approaches to the theme of institutional evaluation.

The description is derived from a sistematization of information about the problem, including results of different experiences. There fore, the theoretical framework is not, nor does it pretend to be, original, but, taking into account the currentness of these approaches it innovates in the sense of combining different elements adapting them to our own requirements and to the feasability of carrying them out.

In the field of evaluation ,three approaches have imposed themselves. One centers itself in the achievement of desirable results, another in the measurement of merits and the third one is decision making.

The first one describes education as a process in which one can distinguish three different focuses: educational objectives, learning experiences and an achievement test. In

accordance with the concept, evaluation means a test on whether the desired educational objectives are reached or not.

The evaluator who works on this model is interested to what degree the studentes are developing adequately...(...)... In the second approach, evaluation is defined as a test of the merits of a determined entity and it is not restricted by the notion of curriculum evaluation...(...)... In the definition in which evaluation is oriented towards decision making, a different aspect is emphasized.

The assumption underlying this definition is the belief that evaluation is valid only if its results affect future actions" Lewy A. et. al., "The evaluation of Curriculum" UNESCO, 1976.

According to this lest approach, Atkin (1970) considers evaluation "as a process of determination of the decision areas with which we are concerned, of selection of proper information together with its analysis, aimed at obtaining a summary of the date of use for the authorities who have to make decisions in selecting among all the alternatives".

The evaluator helps to make decisions by means of this formal process which leads to the preparation of a report in accordance with the rules scientifically accepted.

The evaluator, -says Atkin- should not act as a consultant, but instaed, "he should call the attention of the decision maker to the existence of alternatives, of which he may not be aware".

The consideration of the principal variables of these three approaches has allowed us to elaborate a reference system for the evaluation of curriculum. The system is composed of two sets of variables: the first is the set of the variables considered fundamentals in the educational process pertaining to this teaching level (the object to be evaluated). The second one

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includes the contrasting criteria to be utilized to evaluate the behaviour of the variables which are part of the first set. These are called "criterion variables"; they are intended to serve as a basis of the value judgements which are to be made at the end of the evaluation study programmed.

As the reference system has oriented the construction of the basic instruments referred to in 6.2.1. and 6.2.2., we expect that their analysis may provide the reader with a detailed version of this system even though we have to do without a greater amount of theory.

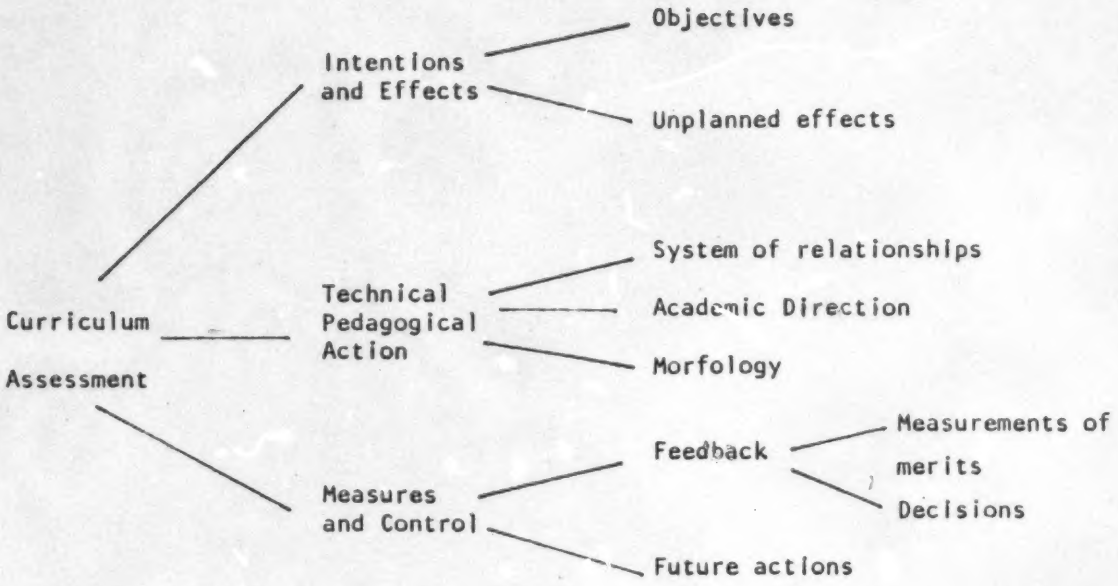
## 5.1.- THE FUNDAMENTAL VARIABLES FOR THE EVALUATION OF ACADEMIC UNITS

Evaluation is defined as the process of outlining and obtaining the information that indicates the level at which decicions are taken in an institution, for estimating the quality of its action.

The academic units, which are the object of evaluation of the first level, bring their educational services into practice by means of the planing an development of their curriculum.

The curriculum is defined as the "organic plan of the technical- pedagogical action which is designed and carried out by an institution". It is considered thet the evaluation of corresponding curricula is an adecquate instrument for the evaluation of academic units.

In this sense, our theoritical framework considers the following as fundamental variables.




## 5.2. THE ROLE OF CRITERION VARIABLES

The criterion variables refer to properties or attributes of the object of evaluation. The properties can be present or absent and, in the first case, manifest themselves with different degree of intensity. They are crit la used as contrasting elements determined by researchers a..d/or members of an evaluation committes.

They should be especified beforehand thus mantaining the objectivity of evaluators. They are vairables which depends on pedagogical and organizational aspects of the objects to be evaluated and their choice makes evident the educational approach of those who utilize them.

From a technical point of view, one is concerned with the characteristics which lend themselves to qualitative or quantitative measurements, and one of their objects is to facilitate the agreement among the judges who must assign a weight to the reference elements.

The level at which the educational action is carried out is compared with these external criteria which should be specified in the corresponding curricular sector.

That is to say, these data gathered by means of the evaluation procedures will be weigthed only in relation to the criteria previously determined.

When the choice of criterion variables is determined theoretically and there is empirical evidence as regards to its effectiveness for evaluating aspects of a problem, its application will be easier than when the areas are subject to diverses interpretations because of the co-existence of divergent theoretical trends. The examples given here have sufficient flexibility so as to leave open the possibility of incorporating other criteria; it is enough if when so doing one bases their dependence on the evaluation referents and the possibility of adopting a measurement criteria, whichever the case may be.

## 6.- THE METHODOLOGICAL FRAMEWORK

In order to evaluate the academic units by means of the programming and the application of the corresponding curricula, a methodology is set forth, which will allow us:

1. to identify the unites and sub-unities which are to be evaluated, the choice of evaluators, the preparation of evaluation instruments;
2. to obtain information about each of the component sectors of the academic unit as a whole;
3. to describe the behaviour of the variables which are typical of each sector, weigh them following previously established criteria, and to offer information at the decision making level;

4. to have members of the institution, who have the appropiate characteristics and time for doing so, participate in the evaluation process. The analysis of the whether or not it is convenient that the evaluators be from outside of the institution or members of it is no the concern of this paper. The participation of both is presupposed.

5. to have participate outside specialists, whose professional incumbency is adequate to guaranteeing the objetivity and technical solvency in the analysis and interpretation of the behaviour of some particular sub-set of variables;

6. to apply statistical methods for the treatment of the data to integrate them into the qualitative analysis which the me - thodology itself also presupposes;

7. to be familiar with evaluation practices and procedures in order that evaluation be comes a normal activity and a part of the act of education;

8. to lower the operating costs of the evaluation programme by. proposing an organization and basic instruments which tend to increase the practicality of the proposed system.

## 6.1.- THE UNITS OF ANALYSIS

The units of analysis which compose the population of this study, will be, on one hand, all the members of the institution differentiated according to their position, situation and specific role. One of the other hand, the out-comes of the interaction of the members among themselves and the interaction of the members with external institutions, as for example:norms, regulations, academics functions,inventories,ets.will be taken as units of analysis.

The designs of the samples will be elaborated for each particular case of institutional evaluation, in view of the fact that these will be limited by the scope of the programme that is to be carried out.

## 6.2. - INSTRUMENTATION

The implementation of evaluative research requires an elaboration of the instruments, wich allow one to obtain and give the information generated during the process of evaluation.

This paper is provided with two basic instruments, which can facilitate the design of specific instruments for each sector to be evaluated. Each instrument must reflect system of variables from which the need of instrument elaboration originates, namely, interview guides, guides for observation, questionnaires,etc.

### 6.2.1. Instrument nº 1- General Table of Specifications

It is a table composed of the following elements:

a) the levels of curriculum evaluation divided in subsets of component variables.

b) The dimensions of the variables subject to evaluation.

c) The indicators that will servs to identify the aforementioned variables in an empirical level.

d) The criterion-variables that will be used to determine the stock of elements and the desirable attributes, or the degree at which these are observable in the object to be evaluate.

### 6.2.2. Table of Specification nº 2

From the aforementioned instrument, the specific tables of each level and the evaluation referents can be derived.

Each table enumerates a fundamental curriculum variable,the reference, the dimensions of which it is composed, the criterion

variables selected for each case, and the measurements criteria.

The outline is flexible and in the enumeration of the criterion variables it adds the category "others" for the evaluaters or/and the ones who prepare the instruments, to mention the most adecquate.

As an example, we present the following:

## 7.- THE OPERATIONAL ASPECTS OF THE PROCESS OF EVALUATION

The system of variables of which the curriculum is composed and which corresponds to the sectors included in Table I may serve as a guide for choosing the members who will coordinate the various evaluation activities.

Every institution may be considered to be an organization of differnt units. The first task of evaluation will be to identify these units. For each of these ougth to be a designated coordinator who will be responsable for the distribution and application of the instruments utilized, for the collection of data and the presentation of the partial report corresponding to his sector.

The operational sequence could be as follows:

1. Carrying the paper work for obtaining the legal resolutions which will authorize and back the task of evalyation.
2. Designating a commitee in charge of the coordination of the different activities, which will also be responsabile for the final report.
3. The aforementioned commitee will designate sub-commitees with representatives from each academic sector and with external specialist, it that is deemed necessary.

GENERAL TABLE OF SPECIFICATIONS

| CURRICULUM EVALUATION | | | | |
|---|---|---|---|---|
| Dimensions | sub-dimensions | CURRICULUM EVALUATION | INDICATORS | CRITERIO-VARIABLES |
| 1. INTENTIONS AND EFFECTS | 1.1 OBJECTIVES | Institutional with reference to: Students; Staff; Institution<br>Academic with reference to: Teaching (Degrees (careers); Level; Cicle; Orientation); Research; Service | Items refering to:<br>- General explicit problem<br>- item with manifested selected criteria | . statement of the problem<br>- internal coherence<br>- clearness in formulation<br>. Pertainance<br>. Feasability<br>. Importance |
| | 1.2 NOT PLANNED EFFECTS | Teaching<br>Research<br>Service | - Pertinent reports | . Importance<br>. Persistence |
| | 2.1 SYSTEM OF RELATIONSHIPS | University External Environment: State Organisms (Educational; Scientific; Others); Private Organisms (Educational; Scientific; Others)<br>University - Academic unity<br>Academic unities among themselves<br>Internal of each academic unity: Academic unity-staff; Academic unity-student; Staff- staff; Staff-student; Students-students | - Pacts<br>- Agreements<br>- Actions<br>- Systems of:<br>Paperwork (Administrative; Academic)<br>Communications (Administrative; Academic; Informal)<br>Meetings (Work meetings; Informative; Informal) | . Stock of agreements and pacts<br>. explicit policies<br>. programs<br>. Stock<br>. Fitness<br>- Mechanisms<br>- Formal ways<br>- Practice<br>- Media |



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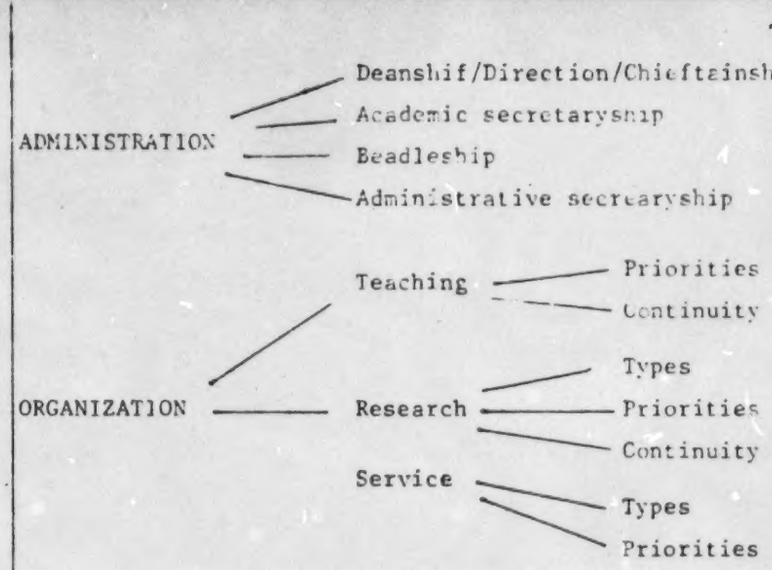
2. TECHNICAL PEDAGOGICAL ACTION

2.2. ACADEMIC DIRECTION

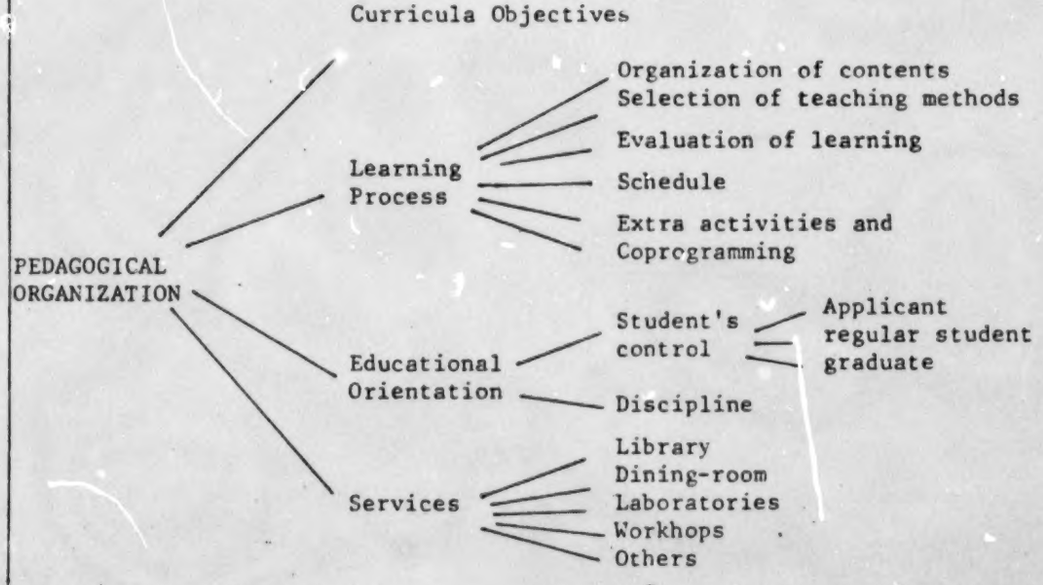



Explanation of Policies of: Teaching, Research, Service

- -Organization diagram
- -Explicit roles and Functions
- -Rules
- -Circulars
- -Files
- -Other documents
- -Correspondence

Degree of diferentiation and integration of:

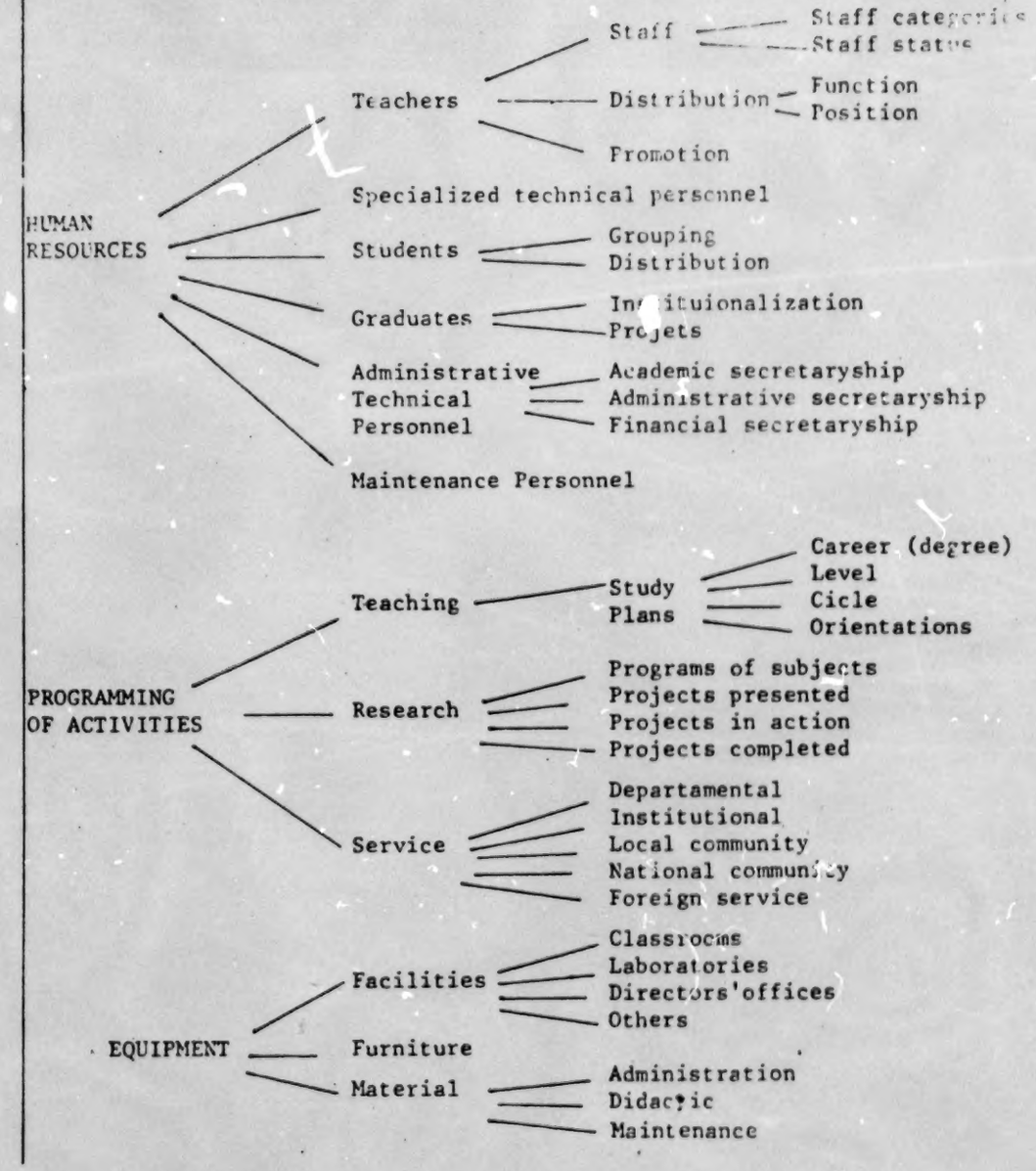
- Roles
- Functions
- Missions
- Tasks
- . Management control
- . Coherence betwell Academic unity and university Polices.




- -General statement
- - Specific statements
- - Curriculum
- - Evaluation system
- - Instruments
- - Guidelines
- - Patterns
- - Plans
- - Programs
- - Internal regulations
- - Premises
- - Inventory
- - Regulations for use

- .Congruence
- .Upoating
- .Organzation
- .Effectiveness
- .Feasability
- .Teachers' competence
- .Methodology
- .Criteria
- .Administration
- .Planning
- .Relevancy
- .Continuity
- .Conception
- .Methods
- .Actions
- .Conception
- .System
- .Stock and facilities

## 2.3. MORPHOLOGY




| | |
|---|---|
| - Nominations<br>- Designations | . stock |
| - Organization Diagram | . Level of specialization an training |
| - Promotions | . Admission and promotion system |
| - Course diagram<br>- | . Organization of students |
| - Organization Diagram | . stock<br>. Admission and promotion system |
| - Organization Diagram | |
| - Respective designs | . specific designs |
| - Design<br>- Projects<br>- File | . Guidelines for the elaborations of plans programs and projects |
| - Inventory<br>- Paperwork for acquisition and increase | . Good conditions<br>. Fitness to needs |
| - Regulations for use | . Systems for its Maintenance |

| | | | | |
|---|---|---|---|---|
| 3. ADJUSTEMENT AND CONTROL | | ADMINISTRATION (MANAGEMENT) AND FINANCING | Secretaryship<br>Treasurership<br>Administrative and financial council | - Technical-administrative program<br>- Technical-financial<br>- Program of maintenance and improvement | . System of maintenance<br>. Policies of increase<br>. Programming<br>- Forecast<br>- Management control |
| | 3.1 FEEDBACK | MEASUREMENT OF MERITS — Formative evaluation | System of relationships<br>Academic action<br>Curriculum instrumentation | Evaluation/evaluation<br>- Program/subprograms | . Theoretical basis<br>. Methodology |
| | | MEASUREMENT OF MERITS — Cumulative Evaluation | Students' achievement<br>Incorporation of graduates in the professional field<br>Teachers' productivity | - Instruments | . Variety of instruments |
| | | DECISIONS — Institutional Evaluation | Career implementation<br>Research promotion<br>University extension courses | - Actions<br>- Reports | . Actions<br>. Forecast and facilities |
| | | DECISIONS — Programatic Evaluation | Original Project<br>Changes made | | |
| | 3.2 FUTURE ACTIONS | CORRECTIVE MEASURES<br><br>NEW PARAMETERS | | | |

TABLE OF SPECIFICATIONS N° 2

| REFERENTS (endogenous) | CRITERION-VARIABLES | | | | | | COST | | | | UTILIZATION OF Human resources | | | | | | | | | | Referent stock | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i.Morphology | Number and type of research (Basic and applied) | Existence of: Programing | Control | Systematic evaluation of projects and their completion | Relation in careers | | Equipmets | Space | Personnel | Time | Participation of university professionals and technicians | Part. of professors and technicians from other universities of the country | Participation of foreign professionals | Materials and technology available in the country | Relation with other centres devoted to similar research | Publication of research | Presentation of papers in other university of the country | Aplication of results | Others | | Yes | No | Not relevant | VALUE According to the degree in which the referents fitinto the criterion-variables (scale = 1 to 5) |
| | | | | | | | | | | | | | | | | | | | | | + | - | 0 | |
| i.i. Research | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-Projects Presented | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-Project in action | | | | | | | | | | | | | | | | | | | | | | | | |
| 3-Projects completed | | | | | | | | | | | | | | | | | | | | | | | | |

4. Preparing the plan of activities.
5. Elaborating, selecting and applying the evaluation instruments .
6. Analysing the data.
7. Elaboration of the partial reports.
8. Presenting the partial reports to the central commitees so that it may take them internally coherent, evaluate the information obteined and elaborate the resulting diagnosis.
9. Presenting the corresponding evaluation report to the authorities of the institution.

## 8.- SOME FINAL CONSIDERATIONS

1. Standars of quality which one might need to compare with evaluation results are not determined in the present paper. Before elaborating such standards one migth ask: can each tertiary level educational institution judge the quality of its scientific, technical and pedagogical activity adapted to its local circunstances?

It is apropiate to impose the higest standards,theoretically considered, as the most adequate for this level of the educational system?

Should the criteria for the assignment of merits be derived from a study of comparative evaluation among institutions of the country using as a norm the resulting "average", and from there fix the qualitative goals desirable for this type of institution? All the foregoing are open questions. To consider the possible answers to these questions is an urgent task bound to need of the Argentine educational system of having approaches, procedures and evaluation instruments for the tasks corresponding to the differents level.

Not having this contributes to originating motives for institutional conflicts, which will be very difficult to resolve if one does not proceed in accord with the "scientifically accepted rules".

2. The present paper merely pretends to serve as a reference framework for debating the subject and it does not pretend to solve all the problems. Its.usefulness will have to be tested in an initial pilot study. The results of the study may show that it is not adecquate for the real situation of our tertiary level educational institutions and,therefore, it will have to be abandoned and others proposed, What will not be abandoned is the idea that the cooperative and continuos institutional evaluation will improve the professional competence of the graduates.